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**United States Patent** [19]**McKay et al.**[11] **Patent Number:** **5,338,839**[45] **Date of Patent:** **Aug. 16, 1994**[54] **DNA ENCODING NESTIN PROTEIN**[75] **Inventors:** **Ronald D. G. McKay**, Brookline, Mass.; **Urban Lendahl**, Stockholm, Sweden[73] **Assignee:** **Massachusetts Institute of Technology**, Cambridge, Mass.[21] **Appl. No.:** **853,913**[22] **Filed:** **Mar. 19, 1992****Related U.S. Application Data**

[63] Continuation-in-part of Ser. No. 660,412, Feb. 22, 1991, abandoned, which is a continuation-in-part of Ser. No. 603,803, Oct. 25, 1990, abandoned, which is a continuation-in-part of Ser. No. 201,762, Jun. 2, 1988, abandoned, which is a continuation-in-part of Ser. No. 180,548, Apr. 12, 1988, abandoned.

[51] **Int. Cl.<sup>5</sup>** ..... **C07H 21/04; C12Q 1/68**[52] **U.S. Cl.** ..... **536/235; 536/24.31; 435/6; 435/912; 935/9; 935/11; 935/78**[58] **Field of Search** ..... **435/6, 91; 536/27, 23.5, 536/24.31, 24.33; 935/77, 78; 485/91.2**[56] **References Cited****FOREIGN PATENT DOCUMENTS**

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*Primary Examiner*—Margaret Parr*Assistant Examiner*—Carla Myers*Attorney, Agent, or Firm*—Hamilton, Brook, Smith & Reynolds

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**ABSTRACT**

A gene (SEQ ID NO: 1 or SEQ ID NO: 3) encoding a protein, nestin, whose expression distinguishes neural multipotential stem cells and brain tumor cells from the more differentiated neural cell types (e.g., neuronal, glial and muscle cells).

**5 Claims, 15 Drawing Sheets**